

**EXERCISE EQUIPMENT SYSTEM**

**FIELD OF THE INVENTION**

5       The present invention relates to an exercise equipment system built around an elastic strap and different grip components to removably mount to the strap.

10      **BACKGROUND OF THE INVENTION**

Taking time to exercise is becoming more and more important with today's hectic lifestyle. Trying to find time for exercise can be difficult. Also difficult is 15 trying to find exercise equipment which fits with fast paced lifestyles. Most exercise equipment is not particularly portable. There are of course things such as treadmills and the like which can be folded sufficiently small to store in a closet or under a bed. 20 However, even these somewhat portable pieces of equipment are not sufficiently small for an individual to take with them on something like a daily trip or the like.

There are presently available much smaller pieces 25 of exercise equipment. For example, one piece of equipment that is known and is relatively popular is the hand held spring equipment. This equipment includes one or more coil springs which connect at opposite ends to a hand grip. The springs themselves are approximately a 30 foot in length and they can be used for relatively "straight lined" exercises such as arm curls, chest spreads etc. Furthermore, with these conventional spring exercisers the amount of resistance can be varied according to the number of springs connected between the 35 two hand grips.

The spring exercise described above although good for the particular type of exercises that they are capable of performing are relatively limited in the number of different exercises that can be performed.

- 5 This is because the springs are relatively short and they are not designed to stretch around support objects which could be required for some exercises such as bench pressing and the like.

10 Another type of portable exercise device that is currently on the marketplace comprises surgical tubing which has hand grips permanently secured to opposite ends of the tubing. The tubing is typically longer than the springs found in the spring exerciser earlier described.

- 15 However, this rubber tube exerciser is once again limited in its uses because it only has one type of hand grip which as earlier described is permanently secured to opposite ends of the tube.

20 **SUMMARY OF THE PRESENT INVENTION**

The present invention provides an exercise equipment system which is so portable that it can be carried at essentially all times with an individual and 25 which is extremely versatile for performing many different types of exercise movements.

More particularly, the exercise equipment system of the present invention comprises an elastic strap 30 having a pair of rigid collars fitted to the strap at spaced apart locations along the strap. The system further includes a plurality of grip components which removably mount to the strap at the collars.

**BRIEF DESCRIPTION OF THE DRAWINGS**

The above as well as other advantages and features  
of the present invention will be described in greater  
5 detail according to the preferred embodiments of the  
present invention in which;

Figure 1 is perspective view of an exercise  
equipment system set up with a bar grip component  
10 according to a preferred embodiment of the present  
invention;

Figure 2 is an exploded perspective view of the  
system of Figure 1;

15 Figure 3 is an enlarged view of the fitting of one  
of the collars of the strap to the bar of Figure 1;

Figure 4 is an exploded sectional view through a  
20 quick snap region of the bar of Figure 2;

Figures 5 and 6 are views of a person using the  
exercise equipment system as set up in Figure 1;

25 Figure 7 is a perspective view of the fitting of a  
further hand grip component to the strap of Figure 1;

Figures 8, 9 and 10 are views showing use of the  
exercise equipment system when set up with hand grips as  
30 shown in Figure 7 of the drawings;

Figure 11 is a perspective view of the exercise  
equipment system when set up as shown in Figure 1 and  
when attached to a further piece of exercise equipment;  
35 and

Figure 12 is a side view of a person using the exercise equipment system in the Figure 11 setup.

**DETAILED DESCRIPTION ACCORDING TO THE PREFERRED  
5   **EMBODIMENTS OF THE PRESENT INVENTION IN WHICH:****

Figure 1 shows a piece of exercise equipment which is based on an elastic strap 1. This strap is fitted with a pair of rigid collars 3 at spaced apart locations 10 along the strap.

The fitting of each of the rigid collars 3 to the strap is better seen having reference to Figures 2 and 3 of the drawings. Collar 3 which preferably has a strong 15 plastic or a metal construction is held in position by a loop 5 of the strap 1 which wraps around collar 3. A clip 7 is used to tightly sync the loop of strap 1 onto collar 3.

Figure 3 shows that collar 3 in the preferred embodiment has a cylindrical shape. Strap 1 in the preferred embodiment has a wide flat rectangular configuration. The preferably rubber construction of strap 1 is such that the rubber material of the strap 25 when tightly stretched around collar 3 has a high coefficient of friction contact with the collar to firmly secure the collar with the strap.

As will be appreciated from the description above 30 through the provision of releasable clips 7 each one of the collars 3 is adjustable lengthwise of strap 1 for different width setting of the two collars relative to one another. The width setting chosen will be dictated by the size of the person who is going to exercise using 35 the strap.

As described immediately above the stretch rubber material of the strap helps to positively secure the collar with the strap. In addition, the relatively wide flat shaping of the strap further adds to the strap's ability to grip onto and positively secure each one of the collars. As such the collars have essentially no tendency to slide along the length of the strap when the exercise equipment system is put to use.

Strap 1 when fitted with its collars 3 provides a base unit to receive any one of a number of different grip components that can be fitted with the exercise equipment system. Figures 1 through 4 of the drawings show details of one of those components.

More specifically, in the Figure 1 setup an elongated multi-piece bar generally indicated at 11 is fitted to strap 1 at the strap collars 3. For portability purposes bar 11 as best seen in Figure 2 of the drawings can be broken down into a plurality of different bar segments. These segments comprise relatively major bar segments 12, 16 and 20. More minor bar ends segments 27 and 29 are also part of the multi-segment bar 11.

Bar segment 12 locates generally centrally of the overall bar 11. This bar segment includes a relatively large diameter hollow bar portion 13 and a smaller diameter bar portion 14. Bar portion 14 sleeves into the relatively large diameter bar portion 15 of bar segment 16.

Bar portion 21 of bar segment 20 extends to a smaller diameter bar portion 23 which sleeves into bar portion 13 of bar segment 12.

To complete the overall bar hollow cylindrical bar end segment 27 sleeves over the smaller diameter bar portion 19 of bar segment 16. This leaves an exposed bar portion 17 on bar segment 16. Bar portion 17 is slightly  
5 reduced in diameter to the diameters of bar end 27 and bar portion 15 of bar segment 16.

At the other end of the bar, bar end segment 29 includes a smaller diameter bar portion 31 which slides  
10 into bar portion 25 of bar segment 20. The bar portion 25 remains exposed around the outside of the bar.

In this particular embodiment one of the collars 3 rotatably fits onto bar portion 17 of bar segment 16.  
15 The other collar rotatably locates over bar portion 25 of bar segment 20. The two collars are trapped on the bar between the opposing end faces of each of the bar portions to opposite sides of each of the collars.

20 The above setup provides an assembly in which the collars will not slide off of the bar but are allowed to rotate around the bar.

Figure 4 of the drawings shows the preferred  
25 embodiment quick snap connection which is used to connect all of the different bar segments. This connection comprises a spring 41 and a bead 43. In the Figure 4 embodiment bead 43 projects under the pressure of spring 41 through an opening in bar portion 31. Bar portion 31  
30 slides into bar portion 25 as earlier described to depress bead 43 against the pressure of spring 41. Bead 43 will remain depressed until it reaches opening 26 in bar portion 21. At this point, the pressure from spring 41 pushes the bead 43 up through opening 26 to snap lock  
35 the two bar segments together with one another.

As noted earlier this same snap lock feature is used at all of the other bar segments as well.

Figures 5, 6, 11 and 12 of the drawings show 5 several of the many exercises that can be carried out using the Figure 1 setup of the exercise equipment. More specifically, Figures 5 and 6 show an individual sitting at a chair with the strap 1 wrapped over the back of the chair. The individual performing the exercise is seated 10 between the chair back and bar 11. Bar 11 is then pushed forwardly to perform what is known as a bench-press exercise.

In Figures 11 and 12 an additional component in 15 the form of a door grip 51 is fitted to elastic band. Door grip 51 comprises a non-stretch strap 53 having a loop 55 at one end and a doorstop member 59 at its other end. A hook 57 fits through loop 55 and over strap 1. The strap 53 is slid beneath the door with the doorstop 20 59 to the other side of the door. This is well shown in Figures 11 and 12 of the drawings. The person using the exercise equipment then places his or her feet against the door and pulls rearwardly on bar 11 to perform as what is known as a rowing exercise.

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Another exercise which can be performed by using the setup of Figure 1, is a curl exercise. In order to perform this exercise the individual places his or her feet over a center region of strap 1 and then pulls bar 30 11 upwardly in a curling motion.

A particularly important advantage of the system as thus far described is found in the rotational mounting of the collars to the bar. This allows the hands to turn 35 in a natural motion while performing the arm curls. The rotational interfit the collars on the bar will also be

helpful in many other different exercises.

Figure 7 of the drawings shows a further hand grip member generally indicated at 61 which can be releasably connected to strap 1 through collar 3. Grip member 61 comprises a non-stretch strap 65 with a handle portion 63 fitted over strap 65. As will be clearly apparent from Figure 7 handle 63 is able to move and in particular turn on strap 65.

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Strap 65 includes a pair of looped ends 67 and 69. End 69 is first fitted through collar 3 and then secured to looped end 67 by means of a hook 71.

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Figures 8, 9 and 10 show only some of the various exercises which can be performed with the grips 61 attached to strap 1. In the Figure 8 position the individual using the exercise equipment while standing on strap 1 is able to perform pull-ups. By rotating his or her hands the person is also able to perform individual arm barbells type curls. Once again the ability of handles 63 to rotate assists in the upward curling action.

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In the Figure 9 use of the exercise equipment strap 1 is again fitted over the back of a chair in which the individual is seated. From here the individual is able to either push directly forwardly to perform an exercise comparable to dumbbell presses. In another motion the individual is able to swing his or her arms outwardly and forwardly in what is known as a fly exercise.

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In the Figure 10 position where the hands are reversed from what they would be in a curling motion the individual while standing on the strap performs a reverse

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curl tricep strengthening exercise.

It is to be appreciated that many other exercises including leg strengthening exercises can also be  
5 performed using the exercise equipment as described. Furthermore, by the individual reversing his or her position from the Figure 12 position and placing the bar behind the users neck the user can sit against the door and perform downward crunch stomach strengthening  
10 exercises. These are obviously only a few of the many different exercises that can be performed using the portable exercise equipment system of the present invention.

15 Although various preferred embodiments of the present invention have been described in detail, it will be appreciated by those skilled in the art that variations may be made without departing from the spirit of the invention or the scope of the appended claims.